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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/797,457

03/10/2004

Carl Geisler

18130 US

4459

7590

10/05/2005

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EXAMINER

PERKINS, PAMELA E

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/797,457	<b>Applicant(s)</b> GEISLER ET AL.	
	<b>Examiner</b> Pamela E. Perkins	<b>Art Unit</b> 2822	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 10-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/5/04 7/6/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This office action is in response to the filing of the election on 25 July 2005.

Claims 1-22 are pending; claims 10-22 have been withdrawn from consideration.

### ***Election/Restrictions***

Applicant's election without traverse of group II, claims 1-9 in the reply filed on 25 July 2005 is acknowledged.

Claims 10-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group I, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 25 July 2005.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. (6,674,159) in view of Ouellet et al. (6,902,656).

Referring to claims 1 & 7, Peterson et al. disclose a process for preparing an electronic package where a ceramic housing defines an internal cavity for receiving a micro device and having one or more interface portions (Fig. 3A; col. 5, lines 4-16); treating the housing to form a tungsten layer on the interface portions (col. 12, lines 23-

Art Unit: 2822

33); and overlaying a layer on the tungsten layer (col. 30, line 42 thru col. 31, line 9).

Peterson et al. further disclose applying a protective coating on the layer (col. 31, lines 1-9). Peterson et al. do not disclose overlaying a palladium layer on the tungsten layer.

Ouellet et al. disclose a process for preparing an electronic package where a housing defines an internal cavity for receiving a micro device and having one or more interface portions; treating the housing to form a tungsten layer on the interface portions (col. 11, lines 38-44); overlaying a palladium layer on the tungsten layer; and applying a protective coating to the palladium layer (col. 20, lines 55-64; col. 21, lines 25-28).

Since Peterson et al. and Ouellet et al. are both from the same field of endeavor, a process for preparing an electronic package, the purpose disclosed by Ouellet et al. would have been recognized in the pertinent art of Peterson et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Peterson et al. by overlaying a palladium layer on the tungsten layer as taught by Ouellet et al. to increase yield (col. 8, lines 18-45).

Referring to claim 2, Peterson et al. disclose forming the tungsten layer by applying tungsten to the interface portions using a thick film technique (col. 12, lines 23-33).

Referring to claim 3, Peterson et al. disclose forming the tungsten layer using a high temperature co-fired ceramic technique (col. 12, lines 23-33).

Referring to claim 4. Ouellet et al. disclose the tungsten layer having a thickness between 0.0005" to about 0.0015" thick<sup>1</sup> (col. 19, lines 29-33 & 45-51).

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<sup>1</sup> 0.0005" = 12.7  $\mu$ m

Referring to claim 6, Ouellet et al. disclose the palladium layer having a thickness between 25 micro-inches to about 150 micro-inches<sup>2</sup> (col. 21, lines 19-29).

Referring to claim 8, Peterson et al. disclose a solderable interface is provided at the interface portions, the solderable interface consisting essentially of the tungsten layer, the palladium layer, and the protective coating (col. 30, line 42 thru col. 31, line 9).

Referring to claim 9, Peterson et al. disclose disposing the micro device in the cavity and placing a lid on the housing along the interface portions and exposing the housing to temperatures sufficient to reflow the palladium layer to form a solder seal between the housing and the lid (col. 27, lines 31-64).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. in view of Ouellet et al. as applied to claim 1 above, and further in view of Stark (6,627,814).

Peterson et al. in view of Ouellet et al. disclose the subject matter claimed above except applying the palladium layer to the tungsten layer electrolytically.

Stark discloses a process for preparing an electronic package where a housing defines an internal cavity for receiving a micro device and having one or more interface portions; treating the housing to form a metal layer on the interface portions; disposing the micro device in the cavity and placing a lid on the housing along the interface portions (Fig. 1; col. 4, lines 10-35; col. 7, lines 17-20).

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<sup>2</sup> 25  $\mu$ in = 0.635  $\mu$ m

Art Unit: 2822

Referring to claim 5, Stark discloses applying the metal layer electrolytically (col. 7, lines 35-45).

Since Peterson et al. and Stark are both from the same field of endeavor, a process for preparing an electronic package, the purpose disclosed by Stark would have been recognized in the pertinent art of Peterson et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Peterson et al. by applying a metal to the structure electrolytically as taught by Stark to lower cost and production time (col. 2, lines 10-30).

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela E. Perkins whose telephone number is (571) 272-1840. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2822

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PEP



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